

Please amend claims 1-4, 12, 19-20, 43, 52-54, and 58-59, as follows:

C¹
1. (Amended) An isolated nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO:3 or a complement thereof.

B¹
2. (Amended) The nucleic acid molecule of any one of claims 1 and 63-65, further comprising vector nucleic acid sequences.

3. (Amended) The nucleic acid molecule of any one of claims 1 and 63-65, further comprising nucleic acid sequences encoding a heterologous polypeptide.

4. (Amended) A host cell which contains the nucleic acid molecule of any one of claims 1 and 63-65.

C¹
B²
12. (Amended) A method for producing a MEKK1 protein comprising culturing the host cell of claim 4 under conditions in which the nucleic acid molecule is expressed.

C¹
19. (Amended) A method for detecting the presence of a MEKK1 nucleic acid molecule in a sample comprising:

- B³
- a) contacting the sample with a nucleic acid probe or primer which selectively hybridizes to the nucleic acid molecule of any one of claims 1 and 63-65; and
 - b) determining whether the nucleic acid probe or primer binds to a nucleic acid molecule in the sample to thereby detect the presence of a MEKK1 nucleic acid molecule in the sample.

20. (Amended) A kit comprising a compound which selectively hybridizes to the MEKK1 nucleic acid molecule of any one of claims 1 and 63-65 and instructions for use.

C¹
B⁴
43. (Amended) An isolated nucleic acid molecule which encodes an active fragment of MEKK1 that mediates apoptosis, said fragment having 95% sequence identity to residues 875-1493 of SEQ ID NO:4, wherein % identity is determined over the entire length of residues 875-1493 of SEQ ID NO:4.

C1
B5
52. (Amended) An isolated nucleic acid molecule encoding a protease-resistant MEKK1 protein, wherein the protease resistant MEKK1 protein comprises an amino acid sequence having at least 95% identity to the amino acid sequence of SEQ ID NO:4, wherein % identity is determined over the entire length of SEQ ID NO:4, and wherein at least one codon of the nucleic acid molecule encoding an amino acid equivalent to at least one of amino acids 871-874 of SEQ ID NO:4 is mutated such the encoded MEKK1 protein is resistant to proteolysis by a caspase after an amino acid equivalent to amino acid 874 of SEQ ID NO:4.

53. (Amended) The nucleic acid molecule of claim 52, wherein at least one codon is mutated to encode an alanine residue.

54. (Amended) The nucleic acid molecule of claim 52, wherein each codon is mutated to encode an alanine residue.

C1
B6
58. (Amended) An expression vector comprising the nucleic acid molecule of any one of claims 43, 50 and 51.

59. (Amended) An expression vector comprising the nucleic acid molecule of any one of claims 52-54.

68-71
Please add new claims 63-66, as follows:

68 63. (New) An isolated nucleic acid molecule which encodes a protein having at least 95% identity to the sequence set forth as SEQ ID NO:4, wherein % identity is determined over the entire length of SEQ ID NO:4 and wherein the protein is capable of phosphorylating a mitogen-activated protein kinase kinase (MKK) protein.

69
64. (New) The nucleic acid molecule of claim 63, wherein the encoded protein is capable of phosphorylating a MKK protein selected from the group consisting of MKK1, MKK2, MKK3 and MKK4.